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| 09/371,588      | 08/10/1999  | ARCHIBALD W. SMITH   | 99-038-TAP          | 9428             |

7590 07/05/2005

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| EXAMINER |
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SNIEZEK, ANDREW L

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2651

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/371,588

Applicant(s)

SMITH, ARCHIBALD W.

Examiner

Andrew L. Sniezek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-17 and 27 is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7 and 18-24 is/are rejected.
- 7) ☒ Claim(s) 4, 25, 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The following action is taken in view of the amendment filed 2/16/05.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Farnsworth et al. ('371).

The body of this rejection is incorporated herein from paragraph 3 of the previous office action mailed 11/16/04. It is noted that "direction" and "magnitude" determinations are inherent in the servo error signal that is used to properly align a desired track with a head.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5, 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnsworth et al. in view of Roth et al. and Smith.

The teaching of Farnsworth et al. is discussed above and incorporated herein. Claim 1 although written with different language substantially sets forth what was previously

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discussed with respect to claims 24. Claim 1 additionally sets forth that the tracking system is used for a magnetic tape, which additionally claims a magnetic head and positioner. Farnsworth et al. teaches the magnetic head and positioner as elements (15 and 17) although this system is disclosed only in a magnetic disk environment. Roth et al. teaches that such arrangements are equally known to be used in a variety of medium devices including a magnetic tape medium (column 12, lines 20-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the arrangement of Farnsworth et al. such that it could be used not only in a disk environment but also a magnetic tape environment since the type of medium used would not change the operation of the optical tracking arrangement. Claim 1 additionally sets forth a plurality of servo modules, which although not taught by Farnsworth et al. or Roth et al. is taught in the similar environment, Smith ('349) figures 2 and 3 to improve the accuracy of placement of the head (see column 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate plural modules as taught by Smith, each having the specifics as taught by Farnsworth et al. in the arrangement of Farnsworth et al. and Roth et al. as combined to increase the accuracy of placement of the head. The claimed first and second detectors as set forth in claim 2 are satisfied by binary detector (39) as taught by Farnsworth et al. Claim 3 additionally sets forth mounting the optical servo module structure between the read and write heads. In Farnsworth et al. the module is mounted "fixedly" to the read/write head (column 3, lines 40-45). The placement difference is deemed to be a design choice that one of ordinary skill in the art could have made through routine engineering practice.

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There does not appear to be any added benefit to this minor placement difference and therefor would have been obvious to vary the location of the module at various locations on the head without breaking the bounds of the invention. Claim 21 sets forth similar limitations as discussed with respect to claim 1 and therefore rejected for reasons given. The limitations of claims 5 and 22 would inherently be satisfied by the arrangement of Farnsworth et al. and Roth et al. as applied. Claim 23 sets forth similar limitations as discussed with respect to claim 3. The claimed laser beam as set forth in claim 18 is satisfied by Farnsworth et al. (27). The hologram feature as set forth in claim 19 is satisfied by Farnsworth et al., (HOA 36). The claimed two or more slits as set forth in claim 20 is satisfied by figure 4 as taught by Farnsworth et al.

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnsworth et al., Roth et al. and Smith as applied to claims 1-3, 5, 18-23 above, and further in view of Leonhardt et al.

The teachings of Farnsworth et al., Roth et al. and Smith are discussed above and incorporated herein. Claim 6 is directed to an assembly that houses the servo modules such that they face the back of the tape and claim 7 includes a grating assembly.

Although not specifically taught by Farnsworth et al., Roth et al. or Smith having servo modules facing the back side of a tape is taught by Leonhardt et al. (figure 1) to decouple the recording surface from the servo system (abstract). As seen from figure 1 gratings are present. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Leonhardt et al. into that of

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Farnsworth et al., Roth et al. and Smith as applied in order to decouple the recording surface from the servo arrangement.

***Allowable Subject Matter***

7. Claims 8-17 and 27 are allowed.
8. Claims 4, 25 and 26 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The following is a statement of reasons for the indication of allowable subject matter: The claimed relationship of the first and second spots as set forth in claims 4/2 and 26/24 is neither taught by nor an obvious variation of the art of record. The claimed relationship of the two spots as set forth in claim 25/24 is neither taught by nor an obvious variation of the art of record.

***Response to Arguments***

10. Applicant's arguments filed 2/16/05 have been fully considered but they are not persuasive. Concerning claim 24: As pointed out in the rejection "magnitude" and "direction" are inherent in the servo error signal. Without such indicators there would be no way to determine if the head and the desired track are in proper alignment. The reason to combine Smith with Farnsworth et al. and Smith is to obtain the advantages of Smith as taught in column 4, i.e. to increase the position accuracy and reliability of the system.

***Conclusion***

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11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US006141174A is cited only to show that a PES provides a measure of magnitude and direction of a heads position with respect to a track.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

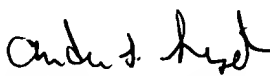
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Sniezek whose telephone number is 571-272-7563. The examiner can normally be reached on Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Andrew L. Snizek  
Primary Examiner  
Art Unit 2651

A.L.S.  
6/29/05